

ANNUAL REPORT: June 1, 2015 – May 31, 2016
(i.e., Summer 2015, AY 2015-2016)
DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY
SUNY-ESF

NAME: Stephen Teale

I. INSTRUCTIONAL ACTIVITIES

1. Regular Course Offerings

	<u>Course No.</u>	<u>Title</u>	<u>Credit Hrs.</u>	<u>No. Students</u>	<u>No. of Lab. Sections</u>
SUMMER:	EFB345	Forest Health (co-taught w/ JDC)	3	10	1
FALL:	EFB352	Entomology	3	50	4
	EFB552	Entomology	3	7	4
SPRING:	EFB217	Peoples, Plagues and Pests (co-taught w/ JDC)	3	118	0

2. Non-Scheduled Course Offerings (e.g., 496, 899, 999)

	<u>Course No.</u>	<u>Title</u>	<u>Credit Hrs.</u>	<u>No. Students</u>
Fall:				
	EFB420	Prof Internship/Envrn Biology	3-5	2
	EFB498	Independent Research/Envrn Bio	3-5	2
	EFB797	Seminar: Chemical Ecology of Insect-Host-Microbial Interactions	1	8
	EFB899	Masters Thesis Research	1	1
	EFB999	Doctoral Thesis Research	2-9	5
Spring:				
	EFB498	Independent Research/Envrn Bio	3	3
	EFB899	Masters Thesis Research	1	1
	EFB999	Doctoral Thesis Research	1-9	5

II. STUDENT ADVISING

A. Number of undergraduates for whom you are the student's official advisor 16 and unofficial advisor 2

B. Graduate Students: (list name, degree sought, starting date, month & year; if a degree was completed, please give date and full citation for the thesis or dissertation).

MAJOR PROFESSOR

1. Kristen Doherty, MS, started Jan. 2013
2. Laura Hansen, PhD, started June 2012

3. Tian Xu, PhD, started August 2012
4. Alejandro Miele, PhD, started August, 2012
5. Hajar Faal, PhD, started June, 2014
6. Xiaoyu Zhang, PhD, started August, 2015, left program in May 2016

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

Chairman

David Oster, MS Environmental Studies

Kaira Fuentes, PhD Environmental Studies

III. RESEARCH COMPLETED OR UNDERWAY

A. Departmental Research (unsupported, boot-legged; title - % time spent)

1. Fungal Attractants for *Sirex noctilio* and its Parasitoids 5%

B. 1. Grant-supported Research (source, subject, amount - total award and current year, award period starting and ending dates; list graduate research assistants supported by each grant)

1. USDA APHIS "Targeted Identification of Pheromones and Related Attractants for Invasive Cerambycid Beetles from Asia" PIs: Millar, J.G., L. Hanks & S. Teale \$145,000 01-SEP-2014 To 31-AUG-2015 (**\$33,396** to SUNY-ESF).
2. USDA APHIS "Targeted Identification of Pheromones and Related Attractants for Invasive Cerambycid Beetles from Asia" PIs: Millar, J.G., L. Hanks & S. Teale \$145,000 01-SEP-2015 To 31-AUG-2016 (**\$31,463** to SUNY-ESF).
3. Alphawood Foundation, PI: Teale, S. "Asian Longhorn Beetle Research at SUNY-ESF" \$ **92,137**; FEB-2014 To FEB-2016
4. Alphawood Foundation, PI: Teale, S. "Asian Longhorn Beetle Research at SUNY-ESF" \$ **95,078**; MAY-2015 To MAY-2017
5. Alphawood Foundation, PI: Teale, S. "Asian Longhorn Beetle Research at SUNY-ESF" \$ **95,895**; 1-FEB-2016 To 31-JUL-2017
6. Helmsley Trust/International Community Foundation, PI: C. Causton. "Protect Galapagos Landbirds from Invasive Species" ~\$800,000/3 yr. **\$81,693** to ESF (SEPT-2014 To NOV-2015).
7. Helmsley Trust/International Community Foundation, PI: C. Causton. "Protect Galapagos Landbirds from Invasive Species" ~\$800,000/3 yr. **\$98,350** to ESF (31-NOV-2015 To 31-OCT-2016).

2. Research Proposals pending (include information as in B.1., above).

1. USDA APHIS "Targeted Identification of Pheromones and Related Attractants for Invasive Cerambycid Beetles from Asia" PIs: Millar, J.G., L. Hanks & S. Teale \$181,473 01-SEP-2016 To 31-AUG-2017 (**\$38,192** to SUNY-ESF).

IV. PUBLICATIONS (Full bibliographic citation, i.e., do not use "with Jones," or "Jones, et al."; please list only publications published, in press, or actually submitted during this reporting period --- **do not list manuscripts in preparation**).

A. Refereed Publications

1. Hansen L, Xu T, Wickham J, Chen Y, Hao D, Hanks LM, Millar JG, Teale SA. 2015. Identification of a Male-Produced Pheromone Component of the Citrus Longhorned Beetle, *Anoplophora chinensis*. PLoS ONE 10(8): e0134358. doi:10.1371/journal.pone.0134358
2. Skabeikis DD, SA Teale, MK Fierke. 2016. Diel Rhythms in *Monochamus* (Coleoptera: Cerambycidae): Production of and Response to a Male-Produced Aggregation Pheromone. Environ. Entomol. DOI:http://dx.doi.org/10.1093/ee/nvw044
3. Skabeikis DD, MK Fierke, SA Teale. 2016. Field Response of *Monochamus scutellatus scutellatus* and *Monochamus notatus* (Coleoptera: Cerambycidae) to the Male-Produced Pheromone, 2-(Undecyloxy)-Ethanol, and Host Volatiles. J. Econ. Entomol. 109:1220-1225. DOI:10.1093/jee/tow084

C. Papers Presented at Science Meetings (give title, date, occasion, and location)

Laura Hansen, Tian Xu, Jacob Wickham, Yi Chen, Dejun Hao, Lawrence M. Hanks, Jocelyn G. Millar, and Stephen A. Teale. Identification of a Male-Produced Pheromone Component of the Citrus Longhorned Beetle, *Anoplophora chinensis*. 27th USDA Interagency Research Forum on Invasive Species. Annapolis, MD, January, 2016

VI. PROFESSIONAL DEVELOPMENT

B. 2. Professional Society Membership

Entomological Society of America

International Society of Chemical Ecology

3. Other Professional Activities

a. Editorial activity

<u>Journal (s)</u>	<u>Responsibility</u>
Frontiers in Ecology and Evolution (Chem. Ecol.)	Review Editor

b. Reviewer

<u>Journal(s)</u>	<u>No. of manuscripts</u>
Canadian Journal of Forest Research	
Journal of Forestry Research	
Frontiers in Ecology and Evolution	
Journal of Economic Entomology	

D. Foreign Travel (Where, When, Purpose)

Charles Darwin Research Station, Puerto Ayora, Galapagos, Ecuador, 4-23 March, 2016 for field work.

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

1. Promotion and Tenure Committee (member, Chair)

VIII. SUMMARY OF SIGNIFICANT ACTIVITIES AND ACCOMPLISHMENTS DURING THIS REPORTING PERIOD, ESPECIALLY THOSE MOST NOTEWORTHY AND RELATIVE TO THE

COLLEGE'S AND DEPARTMENT'S MISSION.

Members of my lab have been very productive this year. Laura Hansen and Tian Xu led a paper in PLoS One on the identification of a pheromone of the citrus longhorned beetle, a potential invasive from China that is significantly more threatening than the Asian longhorned beetle. The pheromone can be used as the cornerstone of an early detection system in the U.S. Dong Cha and Alejandro Mieleles have developed a synthetic lure for *Philornis downsi*, a parasite of Darwin's finches in the Galapagos. In collaboration with Austrian and Ecuadorian colleagues, Dong, Alejandro and Liz Semler have co-authored a paper on self-medication with the endemic plant, *Psidium galapageum*, by Darwin's finches that repels parasites. Hajar Faal was the recipient of both the Silverborg Memorial Scholarship and an OIGS travel Grant. Dong, who has been a post doc with us since April, 2015 was offered a permanent position as Research Scientist with the USDA-ARS and will be moving to that position in the near future.

IX. A. FUTURE PLANS, AMBITIONS, AND POTENTIAL CONTRIBUTIONS FOR YOUR OWN PROFESSIONAL DEVELOPMENT AND THE ENHANCEMENT OF THE PROGRAM IN ENVIRONMENTAL AND FOREST BIOLOGY (brief summary)

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2016

- a. Course(s) to be offered
 - EFB 345 Forest Health
- b. Proposed research activity
 - Continuing with currently funded projects:
 - i. *Philornis downsi* – Galapagos
 - ii. Asian longhorned beetle
 - iii. Exotic woodboring cerambycids
 - iv. Parasitoids of Sirex woodwasp
- c. University, professional society, and public service
 - i. Chair, EFB P&T Committee

2. Fall Semester 2016

- a. Course(s) to be offered
 - EFB 351 Forest Entomology
 - EFB 551 Forest Entomology
- b. Proposed research activity
 - i. *Philornis downsi* – Galapagos
 - ii. Asian longhorned beetle
 - iii. Exotic woodboring cerambycids
 - iv. Parasitoids of Sirex woodwasp
- c. University, Professional society, and public service
 - i. Chair, EFB P&T Committee

3. Spring Semester 2017

a. Course(s) to be offered

EFB 217 Peoples, Plagues and Pests

b. Proposed research activity

- v. *Philornis downsi* – Galapagos
- vi. Asian longhorned beetle
- vii. Exotic woodboring cerambycids
- viii. Parasitoids of Sirex woodwasp

c. University, Professional society, and public service

- ii. Chair, EFB P&T Committee